



Image Processing

Below, a computer operator is conducting an electronic count of the trees in an orange grove, using the innovative ImageCount software, an advanced program for defining, counting, numbering and measuring objects in imaging files and captured video frames.



At right, digitized scaling of an aerial infrared image shows a Florida orange grove in various degrees of detail.

Developed by Electronic Imagery, Inc. (EI), Delray Beach, Florida, ImageCount stems from the same core technology as ImageScale Plus, a related software package developed for NASA by EI under a Small Business Innovation Research (SBIR) contract. ImageScale Plus made it possible for astronauts to conduct image processing and prepare electronic still camera images in orbit aboard the Space Shuttle Orbiter, display them on small monitors in the Orbiter, and downlink images to scientists on the ground for evaluation while the flight is in progress. Introduced to Shuttle service in September 1991, ImageScale Plus has been in regular use on Shuttle flights since.

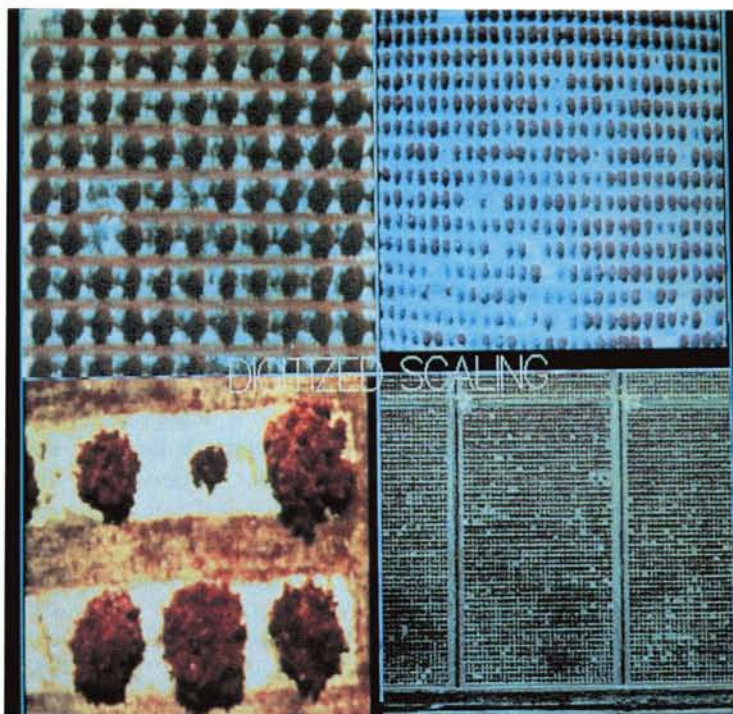
EI's work under the SBIR contract spawned commercial spinoffs in several directions. ImageScale Plus is used in scientific applications such as x-ray and magnetic resonance imaging, and in ophthalmological applications. General commercial applications include

prepress, document processing, textile design and special effects for motion pictures. The technology developed under the SBIR also facilitated data-base management and

networking of high definition digital images in the medical, scientific and industrial fields using EI's Image Manager software and it enabled EI to adapt the core technology to processing aerial photography

imagery and to package it into the software system that became ImageCount.

The tree counting application has broad potential; it offers great time savings compared with alternative methods of inventorying citrus groves for tax purposes: either actual counting of individual trees by field crews, or laborious hand counting of trees in aerial photos. ImageCount also permits computer analysis of the trees for apparent health, an aid in crop forecasting. •



TECHNOLOGY FOR

SPACE SHUTTLE IMAGE

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